

Department of Energy

Richland Field Office
P.O. Box 550
Richland, Washington 99352

9305743

TOEC 1 6 1993

94-RPS-068

Mr. David B. Jansen, P.E. State of Washington Department of Ecology P.O. Box 47600 Olympia, Washington 98504-7600

Dear Mr. Jansen:

HANFORD FACILITY DANGEROUS WASTE PART A PERMIT APPLICATION FORM 3, REVISION 4, FOR THE 216-B-3 MAIN POND (WA7890008967) (TSD: D-2-5)

Enclosed is the Hanford Facility Dangerous Waste Part A Permit Application (Part A) Form 3, Revision 4, for the 216-B-3 Main Pond (Main Pond). The Main Pond is located in the 200 East Area of the Hanford Facility and is used for the treatment and disposal of process and cooling liquid effluent from various 200 East Area units.

This treatment and disposal group was part of the larger unit known as the 216-B-3 Pond System, which included both the Main Pond and the 216-B-3 Expansion Ponds (Expansion Ponds). In a letter dated September 3, 1993, the State of Washington Department of Ecology concurred with the U.S. Department of Energy, Richland Operations Office (RL) and the Westinghouse Hanford Company (WHC) proposal to divide the 216-B-3 Pond System into two distinct treatment, storage, and/or disposal groups, each with a separate Part A, Form 3. The two separate Part A, Form 3s support the preparation of separate closure/postclosure plans for the Main Pond and the Expansion Ponds. Separate closure/postclosure plans are being prepared because the Expansion Ponds are currently undergoing clean closure separate from the Main Pond. The Main Pond will be closed in coordination with the Resource Conservation and Recovery Act past practice activities for its operable unit.



Should you have any questions regarding the Main Pond Part A, Revision 4, please contact Mr. C. E. Clark of RL on (509) 376-9333 or Mr. R. C. Bowman of WHC on (509) 376-4876.

Sincerely,

**EAP:CEC** 

James D. Bauer, Program Manager Office of Environmental Assurance, Permits, and Policy DOE Richland Operations Office

James D Bauer

R. E. Lerch, Deputy Manager Restoration and Remediation Westinghouse Hanford Company

Enclosure: 216-B-3 Main Pond Dangerous Waste Part A Permit Application Form 3, Revision 4

cc w/enclosure:

D. L. Duncan, EPA

T. M. Michelena, Ecology

D. C. Nylander, Ecology Administrative Records, H6-08

cc w/o enclosure:

R. C. Bowman, WHC

R. E. Lerch, WHC

S. M. Price, WHC

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### III. PROCESSES (continued)

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESS (code "TO4"). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY. 102, 084

The 216-B-3 Main Pond (Main Pond) consists of the 216-B-3 Pond and the 216-B-3-3 Ditch. The 216-B-3 Pond, which has been in service since 1945, currently covers an area of 35 acres (14 hectares) to a depth of 2 to 8 feet (.71 to 2.4 meters). The 216-B-3 Pond receives effluent from the 216-B-3-3 Ditch, which was excavated in 1970 to replace an earlier ditch. The 216-B-3-3 Ditch is approximately 3,700 feet (1,128 meters) long, 30 feet (9.1 meters) wide at ground level, 6 feet (1.8 meters) wide at the bottom, and 4 to 8 feet (1.2 to 2.4 meters) deep. The 216-B-3-3 Ditch received most of its dangerous waste from the 216-A-29 Ditch, which drained the Plutonium Uranium Extraction (PUREX) Plant chemical sewer line. The 216-A-29 Ditch discharged into the 216-B-3-3 Ditch approximately 1,500 feet (460 meters) west of the 216-B-3 Pond. The 216-A-29 Ditch was shut down and interim stabilized in July 1991.

The Main Pond receives waste water (primarily process and cooling water) from the PUREX Plant, the B Plant Complex, the 242-A Evaporator, and other 200 East Area units. Effluent in excess of the amount that the Main Pond is designed to handle is transferred through a spillway to the 216-B-3 Expansion Ponds. The Main Pond received corrosive waste as a result of the regeneration of the PUREX Plant demineralizer columns (D84). Treatment of the waste occurred by the successive discharge of acidic and caustic waste, which served to neutralize the corrosivity of the waste before and upon reaching the Main Pond. Residual corrosivity was neutralized by the calcareous nature of the Main Pond soil (T02).

The process design capacities given for waste process codes TO2 [840,000 gallons (3,180,000 liters) per day] and D84 [840,000 gallons (3,180,000 liters)] represent the Main Pond's proportional share (based on percolation capacity) of the process design capacity of the entire B Pond System (which includes the 216-B-3 Expansion Ponds, a separate dangerous waste treatment and disposal unit). At the peak of operations, approximately 22,000,000 gallons (83,280,000 liters) per day of liquid was discharged to the entire 216-B-3 Pond System. Presently, approximately 1,500 gallons (5,678 liters) to 6,000 gallons (22,712 liters) per minute of non-dangerous liquid effluent are being sent to the 216-B-3 Pond System.

#### TV. DESCRIPTION OF DANGEROUS WASTES

- A. DANGEROUS WASTE NUMBER Enter the four digit number from Chapter 173-303 WAC for each listed dangerous waste you will handle. If you handle dangerous wastes which are not listed in Chapter 173-303 WAC, enter the four digit number(s) that describes the characteristics and/or the toxic contaminants of those dangerous wastes.
- 8. ESTIMATED ANNUAL QUANTITY For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.
- C. UNIT OF MEASURE For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE CO	DE METRIC UNIT OF MEASURE	CODE
POUNDS		

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

## D. PROCESSES

## 1. PROCESS CODES:

For listed dangerous waste: For each listed dangerous waste entered in column A select the code(s) from the list of process codes contained in Section III to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed dangerous wastes: For each characteristic or toxic contaminant entered in Column A, select the code(s) from the list of process codes contained in Section III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed dangerous wastes that possess that characteristic or toxic contaminant.

Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: DANGEROUS WASTES DESCRIBED BY MORE THAN ONE DANGEROUS WASTE NUMBER - Dangerous wastes that can be described by more than one Waste Number shall be described on the form as follows:

- 1. Select one of the Dangerous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
- 2. In column A of the next line enter the other Dangerous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
- 3. Repeat step 2 for each other Dangerous Waste Number that can be used to describe the dangerous waste.

EXAMPLE FOR COMPLETING SECTION IV (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

		A. DANGEROUS WASTE NO.					B. ESTIMATED ANNUAL QUANTITY OF WASTE			D. PROCESSES											
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Continued from page 2. NOTE: Photocopy this page before completing if you have more than 26 wastes to list. I.D. NUMBER (entered from page 1) W A 7 8 9 0 0 0 8 9 6 7 IV. DESCRIPTION OF DANGEROUS WASTES (continued) D. PROCESSES L N DANGEROUS N O WASTE NO. C. UNIT OF MEA-SURE B. ESTIMATED ANNUAL QUANTITY OF WASTE 1. PROCESS CODES 2. PROCESS DESCRIPTION (if a code is not entered in D(1)) (enter (enter code) T02 0 0 P D84 n 3,500,000 Neutralization/Percolation ¥ ŢŢ T 0 2 77,000 included with above 1 3 3 P 417,000 T02 D84 Neutralization/Percolation T 0 1 P W 19,000 T02 D84 Neutralization/Percolation  $\Psi$ **T** D 0 0 6 169,000 included with above 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 ECL30 - 271 -ECY 030-31 Form 3 PAGE 3 OF 5

(enter "A", "B", "C", etc. behind the "3" to identify photo copied pages)

CONTINUE ON REVERSE

IV. DESCRIPTION OF DANGEROUS WASTES (continued)

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM SECTION D(1) ON PAGE 3.

The 216-B-3 Main Pond (Main Pond) received dangerous waste from two main sources: (1) corrosive and toxic dangerous waste resulting from the regeneration of demineralizer columns at the PUREX Plant, and (2) spills of dangerous or mixed waste at the PUREX Plant. Backwash from the regeneration of the demineralizer columns was frequently corrosive (D002) and sometimes contained toxic concentrations of chemicals used in the regeneration process, including nitric acid, sulfuric acid, sodium hydroxide, and potassium hydroxide (WT02). Spills at the PUREX Plant included hydrazine (U133), cadmium nitrate (WT01/D006), and ammonium fluoride/ammonium nitrate (WT01). Since 1984, administrative and engineering barriers have been put in place at the PUREX Plant to prevent dangerous waste from being discharged into the Main Pond.

The quantity of waste listed for D002/WT02 is an estimated annual quantity based on the Main Pond's proportional share (based on percolation capacity) of the amount of corrosive and toxic waste received by the entire 216-B-3 Pond System (which includes the 216-B-3 Expansion Ponds, a separate dangerous waste treatment and disposal unit). The quantities of waste listed for U133 and WT01/D006 represent the Main Pond's proportional share (based on percolation capacity) of the total recorded amount of hydrazine, cadmium, and ammonium fluoride/ammonium nitrate/received by the entire 216-B-3 Pond System from the time the PUREX Plant resumed operations in 1983 until the last known chemical discharge occurred in 1987.

The quantities of waste listed for U133 and WTO1/D006 include the water in which the chemicals were discharged. Water makes up most of the weight of these discharges.

V. FACILITY DRAWING		
All existing facilities must include in the space provided on page	e 5 a scale drawing of the facility (see instructions for more deta	oil).
VI. PHOTOGRAPHS		ACTOR ( ) C ( ) C ( )
All existing facilities must include photographs (aerial or ground sites of future storage, treatment or disposal areas (see instruct	-lavel) that clearly delineate all existing structures; existing stora tions for more detail).	ge, treatment and disposal areas; and
VII. FACILITY GEOGRAPHIC LOCATION This i	nformation is provided on the attached dr	awings and photos.
LATITUDE (degrees, minutes, & seconds)	LONGITUDE (degrees	s, minutas, & seconds)
VIII. FACILITY OWNER		
A. If the facility owner is also the facility operator as listed in below.  B. If the facility owner is not the facility operator as listed in	in Section VII on Form 1, "General Information", place an "X" in	the box to the left and skip to Section IX
1. NAME OF FAC	CILITY'S LEGAL OWNER	2. PHONE NO. (area code & no.)
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3. STREET OR P.O. BOX	4. CITY OR TOWN	6. ST. 8. ZIP CODE
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IX. OWNER CERTIFICATION		<del></del>
my inquiry of those individuals immediately responsible for obtain aware that there are significant penalties for submitting false info	d am familiar with the information submitted in this and all attack ping the information. I believe that the submitted information is tr ormation, including the possibility of fine and imprisonment.	ned documents, and that based on rue, accurate, and complete. I am
	IGNATURE // //	DATE SIGNED
John D. Wagoner, Manager U.S. Department of Energy	4-11/1/1/22	15/11/65
Richland Operations Office	MMW. William	12116193
X. OPERATOR CERTIFICATION	7/1 VIII 00 10 10 10 10 10 10 10 10 10 10 10 10	
I certify under penalty of law that I have personally examined and my inquiry of those individuals immediately responsible for objein aware that there are significant penalties for submitting false info	ntog the information. I helieve that the exhautted information is to	ned documents, and that based on ue, accurate, and complete. I am
	IGNATURE I	DATE SIGNED
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SEE ATTACHMENT		

## X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Øwher/Operator/

John D. Wagoner, Manager

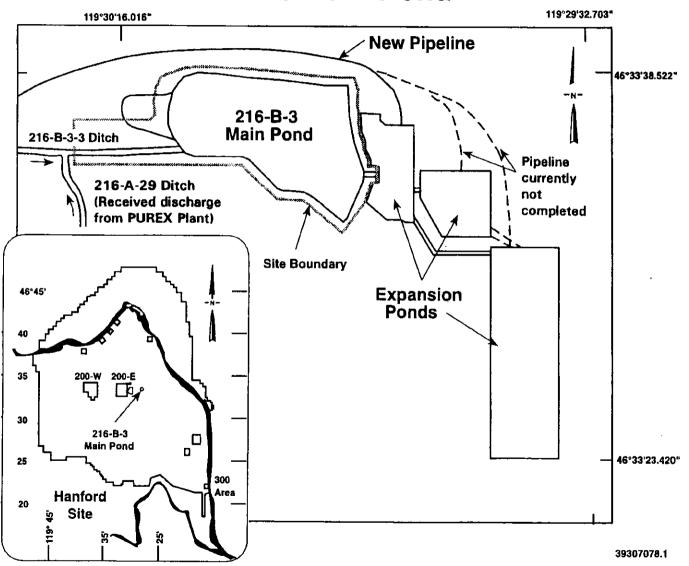
U.S. Department of Energy Richland Operations Office

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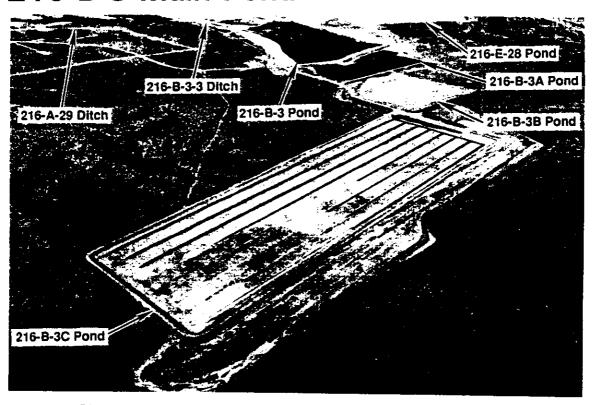
Co-operator Thomas M. Anderson, President Westinghouse Hanford Company 12/16/93 Date

Nato

## 216-B-3 Main Pond



# 216-B-3 Main Pond



46°33'38.522" 46°33'23.420" 119°30'16.016" 119°29'32.703"

93110825-1CN (PHOTO TAKEN 1993)

## CORRESPONDENCE DISTRIBUTION COVERSHEET

Author

Addressee

Correspondence No.

J. D. Bauer, RL R. E. Lerch, WHC D. B. Jansen, Ecology

Incoming 9305743

Xref 9360101D

(J. F. Williams Jr., WHC)

subject: HANFORD FACILITY DANGEROUS WASTE PART A PERMIT APPLICATION FORM 3, REVISION 4, FOR THE 216-B-3 MAIN POND (WA7890008967) (D-2-5)

Approval	Date	INTERNAL DISTRIBUTION Name	Location	w/att
_ <del></del>		Common donor Combinal	A2 01	
		Correspondence Control	A3-01	Х
		President's Office	B3-01	
		W. T. Alumkal	R2-52	
		B. A. Austin	B2-35	
		R. C. Bowman	H6-24	
		G. D. Carpenter	H6-30	
		D. J. Carrell	H6-22	
		B. G. Erlandson	H6-20	
		D. G. Farwick	H4-16	
		C. J. Geier	R2-54	
		R. D. Gustavson	R1-51	Χ
		G. W. Jackson, Assignee	H6-21	
		J. R. Laws	H6-23	
		R. E. Lerch	B3-63	
		P. J. Mackey	B3-15	
		A. K. McDowell	R1-51	Χ
		H. E. McGuire, Level 1	B3-63	
		S. M. Price	H6-23	
		F. A. Ruck III	H6-23	
		D. K. Smith	S6-70	
		B. L. Vedder	H6-22	
		J. F. Williams Jr.	H6-24	χ
		EPIC	H6-08	χ̂
		RCRA File/GHL	H6-23	x
		JFW File/LB	H6-24	â